

Illinois U Library

University of Illinois Library

Undergraduate Division

Navy Pier

Chicago 11, Ill.



the

ILLINOIS ENGINEER



VIRGIL E. GUNLOCK, PRESIDENT, I. S. P. E.

THE ILLINOIS ENGINEER, FEBRUARY, 1951—VOLUME XXVII, NO. 2

Address all communications to the Society at 631 East Green St., Champaign, Illinois.
The Society is not responsible for statements made or opinions expressed in this publication.

ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, Incorporated

Affiliated with the National Society of Professional Engineers

BOARD OF DIRECTION

VIRGIL E. GUNLOCK, President (67*)

A. DOUGLAS SPICER, Vice President (67)

GEORGE E. EKBLAW, Past President (67)

JOHN HENLINE, Ambraw (67)
L. K. CRAWFORD, Capital (68)
J. R. GARDNER, Central Illinois (68)
E. W. LEHMANN, Champaign County (68)
H. F. SOMMERSCHIELD, Chicago (68)
ROBERT M. ROY, DuKane (68)
C. S. WARD, Egyptian (67)

H. E. BABBITT, Secretary-Treasurer (67)
F. L. DUNAVAN, Illinois Valley (67)
C. E. ROGERS, Joliet (67)
L. S. PAPPMEIER, Kewanee (68)
R. E. ANDERSON, Lake County (67)
W. E. WILLIS, Madison County (67)
D. W. WALLACE, Peoria area (67)
JOHN DUGUID, Rockford (68)

R. H. ANDERSON, Rock River (68)
R. G. BRICHLER, St. Clair (67)
W. A. OLIVER, N.S.P.E. Nat'l Director (67)
R. G. BRICHLER, N.S.P.E. Alternate National Director (66)
F. W. EDWARDS, I.E.C. Representative (66)
A. ROBERT JONES, Junior Representative (66)

* This refers to Annual Meeting at which present term expires.

ILLINOIS ENGINEERING COUNCIL REPRESENTATIVES

F. W. EDWARDS, Chairman; C. T. MORRISSETT, HENRY A. RIEDESEL, J. D. VOORHEES

CHAPTER OFFICERS

Ambraw

B. P. JOHNSON, President
R. B. WALTERS, Vice President
JOHN HARDWICK, Secretary-Treasurer
JOHN HENLINE, Chapter Representative

Capital

L. D. HUDSON, President
A. F. KESSELL, Vice President
L. F. RYBURN, Secretary
DAVE ABBOTT, Treasurer
L. K. CRAWFORD, Chapter Representative

Central Illinois

HERMAN W. DORN, President
BARCLAY BEHRENDT, Vice President
F. E. TROXEL, Secretary-Treasurer
J. R. GARDNER, Chapter Representative

Champaign County

E. M. ANDERSON, President
J. C. DIETZ, Vice President
J. W. BRISCOE, Secretary-Treasurer
E. W. LEHMAN, Chapter Representative

Chicago

G. L. DEMENT, President
F. W. EDWARDS, Vice President
JOHN DOLIO, Secretary-Treasurer
H. F. SOMMERSCHIELD, Chapter Representative

Advertising

M. E. Amstutz, Chairman, Arthur R. Ayers, G. H. Bohlig, Frank P. Brock, Rex L. Cary, J. M. Hawley, R. F. Hollis, M. R. Howard, R. G. Kramer, Robert A. Lathrop, Thelma Miller, F. G. Olbrich, A. M. Sorenson, Lee E. Stickler, J. P. Wetherby.

Audit and Finance

Virgil E. Gunlock, Chairman; George E. Ekblaw, Harold E. Babbitt, LaVerne D. Hudson.

Budget

Virgil E. Gunlock, Chairman; George E. Ekblaw, H. E. Babbitt, LaVerne D. Hudson.

Constitutional Amendment

J. H. Morgan, Chairman; H. E. Babbitt, R. G. Brichler, L. K. Crawford.

Cooperation with Illinois Architects

C. T. Morrissett, Chairman; J. G. Clark, W. W. DeCherrie, J. R. Gardner.

Employment Conditions

L. A. Miller, Chairman; Bonnell H. Allen, Howard W. Bold, L. K. Crawford, L. C. Domke, H. E. Hudson, Jr., Royce E. Johnson.

Ethics and Practice

Alois W. Graf, Chairman; R. H. Anderson, Robert H. Caldwell, Herman W. Dorn, R. E. Gibbs, B. P. Johnson, C. J. McLean, F. A. Reickert.

Fees and Salaries

C. F. Manion, Chairman; E. H. Casson, E. E. Cooper, Leo F. Koberlein, A. F. Lee, L. I. Osborn, Hugo Stark.

DuKane

J. F. BATEMAN, President
D. E. DREIER, Vice President
G. M. BOOTH, JR., Secretary-Treasurer
R. M. ROY, Chapter Representative

Egyptian

F. H. PERSSON, President
E. L. SHERERTZ, Vice President
J. L. BURNETT, Secretary-Treasurer
C. S. WARD, Chapter Representative

Illinois Valley

J. B. MORAN, President
LOUIS BOWMAN, Vice President
E. D. ANTROBUS, Secretary-Treasurer
F. L. DUNAVAN, Chapter Representative

Joliet

W. S. GRAY, President
F. H. TITTSWORTH, Vice President
W. S. CHANEY, Secretary
W. K. WALTZ, Treasurer
C. E. ROGERS, Chapter Representative

Kewanee

LEE I. OSBORN, President
C. E. MISSMAN, Vice President
C. F. BATES, Secretary-Treasurer
L. S. PAPPMEIER, Chapter Representative

Lake County

C. L. CALKINS, President

COMMITTEE APPOINTMENTS FOR 1950

Honorary Membership

Duncan F. Campbell, Chairman; W. J. Putnam, C. M. Slaymaker.

Illinois Award

W. B. Walraven (67), Chairman; C. M. Slaymaker (66), Secretary; C. I. Burggraf (68), Virgil E. Gunlock (67), Earl Rush (68), T. C. Shedd (66).

Legislative Action

R. W. Wallace, Chairman; George Anderson, J. C. Beekman, Mills L. Calvert, Benj. H. Janda, Carter Jenkins, R. A. Lonier, G. E. Rynearson, W. W. Wallace.

Legislative Analyzing

A. W. Neureuther, Chairman; H. B. Bleck, Warren E. Burr, Wm. Day, Douglas E. Drier, P. O. Hall, H. A. Kluge, A. V. Marbury, W. J. Nuebling, H. F. Smith, H. A. Spafford, R. E. Stanley, H. F. Walder, Dwain Wallace, James Whelan.

Membership

A. D. Spicer, Chairman; S. W. Carlson, H. H. Cordes, L. A. DesAutels, William S. Gray, J. A. Hardwick, Spencer E. Johnson, R. W. Kastner, Lawrence J. Keenan, Lee I. Osborn, W. J. Roberts, Kenneth H. Setzekorn, J. K. Staats, M. E. Staben, B. D. Toney, J. D. Voorhees, Charles J. Vranek.

Civil Defense

C. W. Klassen, Chairman; R. H. Anderson, H. L. Brissenden, L. K. Crawford, Wm. Day, Melvin A. Dobbs, C. W. Ginter, J. R. Gulick, K. L. Hardine, P. Z. Horton, Fritz Jenkins, J. J. Kearney, R. A. Rasmussen, F. A. Reickert, G. H. Shanahan, E. A. Shultz, W. S. Gray.

CYRIL DREW, Vice President

R. G. KRAMER, Secretary-Treasurer
S. A. SIMONSON, Chapter Representative

Madison County

G. H. SHANAHAN, President
C. K. GRAVES, Vice President
L. K. MEYER, Secretary-Treasurer
W. E. WILLIS, Chapter Representative

Peoria area

KENNETH LEITER, President
BEN LOCKE, Vice President
C. T. BORCHELT, Secretary-Treasurer
DWAIN WALLACE, Chapter Representative

Rockford

CHARLES DEBES, President
GILBERT HENNING, Vice President
LYLE B. PORTER, Secretary-Treasurer
JOHN DUGUID, Chapter Representative

Rock River

R. G. THOMAS, President
V. E. HOPPER, Vice President
A. H. FERGER, Secretary-Treasurer
R. H. ANDERSON, Chapter Representative

St. Clair

F. W. MOORE, President
F. J. MEEK, Vice President
MANUEL GARCIA, Secretary-Treasurer
R. G. BRICHLER, Chapter Representative

Past Presidents

James Whelan, Chairman; E. E. Cooper, D. Campbell.

Publications

W. H. Wisely, Chairman; F. W. Edwards, R. Golly, Roger L. Pendleton.

Public Interests

D. W. Wallace, Chairman; Ralph K. B. James G. Cooney, N. H. Gundrum, James Halsey, Gilbert D. Henning, L. M. Keough, Ben C. Locke, Patrick J. Lucey, D. H. Mcally, H. A. Riedesel, M. J. Stevenson.

Publicity

Robert Roy, Chairman; H. W. Bieritz, Fr. P. Brock, Wm. Chaney, H. K. Dolbow, Kessler, R. G. Kramer, Ben C. Locke, L. Meyer, W. O. Moore, Benj. F. Muirheid, J. Newlin, F. G. Olbrich, E. D. Quirke.

Resolutions

F. H. Persson, Chairman; Fred D. Ellis, C. Goepfert, E. D. Middaugh, J. D. Voorhees.

Registration Laws

Joseph A. Moore, Chairman; Charles Debes, E. Deuchler, J. R. Gardner, Alois Graf, R. Kenyon, L. S. Kraus, Arthur Lee, C. W. Lyman, Charles F. Manion, David R. Miller, J. H. Morgan, L. S. Pappmeier, C. E. Rogers, R. Thomas, E. J. Wade.

State Engineering Employees

R. B. Thomas, Chairman; W. A. Hasfurther, P. Graham, Hugo Stark.

U. S. G. S. Mapping

George H. Dell, Chairman; J. C. Beekman, Forrest Fisher, H. A. Kluge, B. C. McCull, J. C. Penn, W. H. Rayner, Max Suter.

ILLINOIS ENGINEER: W. A. OLIVER, Editor-in-Chief; H. E. BABBITT, Associate Editor; P. E. ROBERTS, Correspondent to American Engineer

Of Professional Interest

REFRESHER COURSE

(From the Assistant Secretary's "Bulletin")

The Department of Registration and Education of the State of Illinois will give the next professional engineering examination on May 24, 25, 1951. The deadline for applications is April 2nd.

In the past two years refresher course classes have been held in eleven cities from Waukegan to Effingham and over 500 men have been helped in their preparation for the examination. However, there are many spots throughout the state where classes have not been held. There are literally hundreds of young engineers in these spots who need the help of the Illinois Society in sponsoring a refresher course class. The detail work in organizing a class is not hard but it does mean a canvas of industrial plants, utilities, railroad offices, highway offices and consulting offices.

As in the past, the Illinois Society through its chapter organization makes the contact with those who desire to take the course and the University of Illinois, Division of Extension, does the rest.

RESULTS OF THE 1951 ELECTION

The polls closed at 5:00 p.m. January 10, 1951; the teller's committee met at 2:00 p. m. on January 12th and report the following results:

State Officers:

Virgil E. Gunlock, President for 1951

A. Douglas Spicer, Vice-President for 1951

Honorary Members:

A. C. Willard

J. J. Woltmann

For Junior Representative on the Board of Direction:

A. Robert Jones, elected.

Tellers: H. F. Smith, William J. Putnam, John S. Crandell.

Mr. A. Robert Jones is from the Champaign County Chapter and is employed as Assistant Engineer, Central Division Office of the Illinois Power Co., in Champaign.

"So live, that when thy summons comes to join
The innumerable caravan, which moves
To that mysterious realm, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry-slave at night,
Scourged to his dungeon, but, sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams."

—From "THANATOPSIS."

SWANSONG AND PHOENIX

GEORGE E. EKBLAW

I close my term of office as president of the Illinois Society of Professional Engineers with mixed feelings.

Foremost at the moment is a sense of relief. Although the office is one of honor, it involves considerable responsibilities and has demanded more time and attention than expected. Naturally, surcease from these demands invokes relief.

But as in the case of a high school or college athlete participating in the last game of his school career, the relief is tempered by regret—regret that for only one more year shall I have the privilege and pleasure of serving on the Board of Direction and participating in its discussions and decisions by which the policies of the Society are formulated.

My deepest, and without doubt the most enduring, feeling is the appreciation of the great honor which the members of the Society accorded me by election to the presidency for the past year.

Consequently my keenest feeling now is disappointment that because of other obligations occasioned by circumstances beyond my control I have not been able to discharge properly all of the responsibilities of the office, to accomplish desirable goals plain before us, to capitalize fully on the opportunity to serve my colleagues and our profession—in short, to merit the honor bestowed upon me.

And so to our new president I turn with faith in his ability and with trust that he may have the time and opportunity to succeed where we have failed, to administer what we have neglected, and thus to extend the aims and activities of our Society. I have found Mr. Gunlock competent, efficient, prudent, wise, pleasant—a man among men. I extend both to him and to the Society congratulations for his election and best wishes for success in his undertaking.

Under the new administration, emerging from the re-

CONTENTS OF THIS ISSUE

	Pages
Of Professional Interest	1-2
President's Annual Report	3-5
Critical Shortage of Engineers	6
News from Chapters	7-13
Registration by Endorsement	14-17
E. S. P. S.	20

READ THE ADVERTISEMENTS

SUBSCRIPTION RATES

\$2.00 per year in advance to members of the Illinois Society of Professional Engineers. \$4.00 per year in advance to non-members in U.S.A. and its possessions, Canada, and Mexico. Foreign \$6.00. Single copies 40c. Published by the Illinois Society of Professional Engineers, Inc., at 631 East Green Street, Champaign, Illinois.
Entered as Second Class Matter April 27, 1949, at the Post Office, Champaign, Illinois.

treating shadows into which the old administration has faded, may the Society grow to greater stature!

Valē! Salūtēs!

VOX SECRETARII

P. E. ROBERTS

The Year Ahead

The work of the Society at the chapter level will continue to expand as it has done during 1950. Several chapters launched both civic and public relations programs in the past year and a continued and increased interest in nearly all chapters is evident for 1951. The refresher course in preparation for the professional engineering examination will be given in two chapter areas which have not sponsored a class before. With the Legislature in session, an accelerated program of legislative activity is forecast.

Membership in the Illinois Society just barely held its own in the past year but a renewed determination to push the total over the 2,000 mark is not only desirable but also necessary to the future welfare of the Society. Attrition accounts for much of the stagnation in the advancement of membership totals. While the drops on January 1, 1951 were less than they were on January 1, 1950, the number of delinquents is greater at the beginning of this year than it was at the beginning of last year. Attendance at chapter meetings is in direct ratio to the number of drops per chapter; that is, those chapters who attract good chapter meeting attendance have the fewest drops.

The follow through by the chapters of the Illinois Society in all phases of its activity is evidence of continued and healthy growth.

NEW MEMBERS FOR JANUARY, 1951

National

George L. Farnsworth, 314 Unity Bldg., Bloomington, Ill. (Central Illinois Chapter).

Joseph A. Normoyle, 1016 17th Ave., Rock Island, Ill. (Kewanee Chapter).

Edwin J. Raich, 1421 Whittier Ave., Springfield, Ill. (Capital Chapter).

Charles L. Ritchie, 1106 Walkup St., Carbondale, Ill. (Egyptian Chapter).

Engineers-in-Training

Stanley M. Ream, 1903 S. 13th St., Springfield, Ill. (Capital Chapter).

Junior

Robert Bottenberg, 906 N. Willis St., Champaign, Ill. (Champaign County Chapter).

Arvid F. Hanson, 812 W. Charles St., Champaign, Ill. (Champaign County Chapter).

Gilbert F. Sauer, Fisher, Ill. (Champaign County Chapter).

Raymond E. Holthe, 4823 N. Mulligan Ave., Chicago 30, Ill. (Champaign County Chapter).

If the crowns of all the kingdoms of Europe were laid down at my feet in exchange for my books and my love of reading, I would spurn them all.

FENELON

THANKS TO ALL FOR A GOOD SIXTY-SIXTH

The 66th Annual Meeting has been written into the record. Each year the Executive Committee looks forward to the preparations for this highlight of Society activity with trepidation, and each year plans are worked up and the meeting goes into the record as "one of the best." But, of course, it is only partly the result of the work of the Executive Committee; most of the success of any annual meeting is in the hands of the Local Committee and particularly of the membership of the Society. A large attendance is a guarantee of a successful meeting.

The Civil Defense theme was particularly timely this year and Major Lohr did an admirable job in bringing to the Society a real and up-to-the-minute report on the subject. Our personal thanks to Major Lohr for helping to make the annual meeting "click."

To affable Sid Stolte goes our grateful appreciation not only for a stirring talk but also for his usual good fellowship and the lift which he seems to bring to every group with which he comes in contact.

We extend our thanks to Mr. Charles P. Casey, Director of Public Works, State of Illinois, to Dean W. L. Everitt, College of Engineering, University of Illinois, and to Mr. Kevin Burke, Department of Registration and Education, who all brought us messages of timely interest.

To Mrs. Everitt our thanks for giving the ladies an interesting and enjoyable day. She is a gracious hostess and she and her able committee left the ladies with many pleasant memories.

To all of the members of the Champaign County Chapter for their untiring work and attention to detail, without which no meeting is a success, our thanks and congratulations for a splendid and successful meeting. These "work horses" did the job with their usual calmness and thoroughness.

More details concerning the Annual Meeting will be published in later issues of the ILLINOIS ENGINEER.

N. S. P. E. MEMBERS FEATURED IN COLLIER'S

In Collier's for December 30, 1950, two members of the Illinois Society and the N. S. P. E. are featured in an article on research at the University of Illinois. Professor H. F. Moore, long time member of I. S. P. E. and N. S. P. E. and world authority on the fatigue of metals, and Professor W. L. Everitt, member N. S. P. E. and Dean of the College of Engineering, are among those whose contributions to engineering research are mentioned.

While the article is written in a popular vein the material included is authentic and can profitably be read by anyone interested in the University.

A man ought to read just as inclination leads him, for what he reads as a task will do him little good.

SAMUEL JOHNSON

The President's Annual Report

GEORGE E. EKBLAW

(Presented at the 66th Annual Meeting)

It is rare indeed that a review of any organization's activities for any year does not reveal cause for satisfaction if not pride on the one hand and for concern if not alarm on the other. So it is with our Society for 1950.

During the year I have had the good fortune to visit officially 14 of the 16 chapters. Because of other engagements, I found it impossible to accept the invitation of the 15th. In all of the 14 chapters which I visited I found much activity to be commended and some needing attention and encouragement. As would be expected, no two chapters stressed all the same activities but each had something of which to be satisfied or proud.

One of the satisfying aspects of the Society itself is its financial status. As the treasurer's report will show, we closed the year with a small favorable bank balance and still retain our Government bonds as a reserve! This is much better than was anticipated a year ago. It is so much better than our record for the past two or three years. May I remind you:

(1) In 1948 the Society incurred expenses approximately \$3,500 more than its income, an excess that completely consumed the cash reserve with which it began the year.

(2) Because the bills for most of these excesses of expenses were not presented until after the books for the year had been closed, what appeared to be a favorable bank balance at the end of 1948 did not exist in fact.

(3) The budget for 1949 provided for the expenditure not only of all the anticipated income but also the non-existent bank balance plus our Government bonds which total \$1,500.

(4) When the true financial status of the Society became apparent early in 1949, the budget of expenditures was drastically reduced. Even so, it appeared that it would be necessary to liquidate the bonds in order to meet the deficit that had been already incurred. However, this was avoided because (a) the Chicago Chapter donated to the State Society \$1,000 which had been realized as a profit at the December 1948 convention, and (b) in December 1949 sufficient 1950 dues were collected to keep our bank balance out of the red.

(5) In the budget for 1950 the operating expenses were kept within the anticipated income, even though this meant a program of less activity than had been undertaken in the previous two or three years. The liquidation of the Government bonds was anticipated but the proceeds were to be applied to the cost of moving to and equipping new offices of the Society, a step that could no longer be postponed; because this expense was largely

the purchase of new furniture, it was viewed as actually a capital investment, and so involved only a transfer of reserve funds from one form to another.

Because of several favoring factors, it developed in 1950 that after all it was not necessary to sell our Government bonds to finance the equipping of our new offices—it was done out of current income, and so the Society still has not only the bonds and the reserve of \$1,500 represented by them, but also the capital investment in the furniture and equipment. The favoring factors have been (1) a profit of \$350 from the convention in Decatur, (2) a greater than expected income from the sale of reprints of professional engineer examinations, (3) a generous restraint on the part of the members of the Board of Direction in requesting travel expenses to Board meetings, (4) circumstances under which the Society was relieved of most of the travel expenses of its officers, (5) the opportunity for the Assistant Secretary to visit most of the chapters at a cost much lower than normal, (6) a reduction in office personnel, (7) legal expenses less than expected, and (8) rigid economy throughout the Society's activities. As a result of this economy, the Society's activities in some aspects have been restricted more than would otherwise be desirable, but not to an extent that has harmed the Society. In fact, despite this economy, the Society's activities have expanded in many respects.

You will see that the proposed budget for 1951 again keeps expenditures within an anticipated income approximately that of the past year. Consequently the program of Society activities must remain much the same as it has been for the past year. If the income from dues, from new applications, and from advertising appreciably exceeds the estimate, the budget may be revised to allow greater expenditures and increased activities. Conversely, if the income does not approach the estimate, the expenditures and activities must be reduced. Thus, whether the Society's program remains in status quo, improves, or deteriorates depends on the individual members, because it is their interest and personal efforts in its behalf which alone determines its income.

The currently favorable financial status of the Society has been attained actually in spite of the fact that (1) the number of new members obtained during the year was not as large as anticipated, even though that estimate was believed to have been ultra-conservative a year ago, and (2) the number of members in arrears and delinquent has increased, all of which contributed to a reduction in anticipated income.

The membership situation reflected by these and other

factors is a matter that should seriously concern all members of the Society. A detailed analysis of the changes in membership during the year is herewith appended (see table). It should be noted that although we obtained 157 new members during the year, the net gain is only 25. The lack of growth and the dues laxity in national membership is not good; the membership in the young engineer grades and the transfers to higher grades are good.

What governs the membership and dues situation is not easy to ascertain, although there are probably as many hypotheses as there are members of the Society. Personally, I am of the opinion that in our solicitation of new members we have too much emphasized the material, the personally financial benefits to be derived from membership. Consequently when a new member does not acquire the financial gain he has been led to expect, he is disillusioned. I would not disparage or belittle these benefits, but I am convinced that in order to establish our profession as it should be we must stress more strongly than we have the view that every engineer who has any pride in his profession owes much to it, that he can discharge this obligation only by contributing to it some of his attention, his interest, his time, and his money without expectation of direct benefits in return, and that only by so doing will engineers ultimately attain their objective and derive the professional recognition and benefits they so ardently desire. This thesis I have advocated in all of my appearances before the chapters I have visited, and it is also advocated by engineers in much higher echelons than I represent.

The question of increasing the income of the Society to improve its potential for desirable activities, by increasing the amount of membership dues, has been introduced by resolution and will be a matter of discussion later in the convention. How any increase in dues may affect the number of members in the Society will doubtless be the point on which there will be the widest divergence of opinion—and it is the most crucial point, for on it hangs the probable future income of the Society.

As for advertising, it also has improved in 1950. For some years the commercial advertising in ILLINOIS ENGINEER has been represented almost entirely by about half a dozen faithful clients. This year we have obtained advertisements from as many additional commercial clients, and although their total account is not so large, it is a definite upturn. Still more additional commercial accounts are in prospect for 1951.

During 1950 there have also been a few additional cards in our professional listing. There are in the State, both in and out of our Society, other practicing engineers or engineering firms who might well join this select group. The increased income for the Society would be too small to be important, but the enhanced professional prestige which both they and our Society through the magazine would achieve would far outweigh the relatively trivial cost.

In my opinion we should, and I recommend that we

do, initiate in the ILLINOIS ENGINEER a similar listing cards of contractors who engage in engineering construction work of any kind in Illinois. I advocate this only because of the additional advertising income, which would be small, but also because it would serve as an important clearing-house between professional engineers and the contractors for their mutual benefit.

During the year the Society and its component chapters have engaged in a wide variety of activities, sometimes with success, sometimes with apparent failure. Two projects which must be recorded as failures are (1) the procurement of an office building and (2) the employment of a legislative analyst. The first project, which was advocated because it not only would have provided now and henceforth offices for the Society at no cost to the Society from its regular income but also in a matter of years, after its cost had been amortized, would be a source of considerably additional income for the Society, was rejected in a referendum ballot of the corporate members of the Society. The second project, which was advocated to provide at the current 1951 session of the state legislature a regular representative of the Society to protect and promote its welfare with respect to all proposed legislative acts and which was to be financed by voluntary contributions from persons belonging to the Society and therefore would also be at no cost to the Society's regular income, failed when by January 1 the contributions did not total a sum considered by the Board of Directors adequate to warrant undertaking the project.

Among the projects which may be considered as successes is the conclusion of a contract with Engineering Societies Personnel Service, Inc., to provide complete employment service for members of our Society, both employees and employers, at a cost one-tenth of what was estimated if our Society should attempt such a service itself. Because of conditions engendered by the national and international situations, which are creating unusually favorable opportunities for engineers, this service currently seems superfluous from the employees' viewpoint, but it still appears eminently desirable as an all-embracing long-range benefit.

Judging from the favorable comments which have been expressed, the conference for chapter officers which was held in April may also be considered a success. Experience and knowledge gained by your president and assistant secretary at the conference for State officers conducted at Nashville, Tennessee, by the National Society contributed much to the successful conduct of our State conference.

Suggestions to the officers of the Western Society of Engineers that because the objectives of the two societies are essentially the same it should be possible for them to collaborate more closely led to a conference in which the officers of both societies participated and the possibilities of collaboration were surveyed in a preliminary way. This resulted in the preparation of a tentative memorandum indicating the fields in which collaboration a

CHANGES OF MEMBERSHIP IN 1950

Chapter	CHAPTER OF MEMBERSHIP IN 1930																																					
	National						State						Affiliate				Engineer in Training				Junior				Student				Total									
	N	R	D	+T-	P	G	N	R	D	+T-	P	G	N	R	P	G	N	+T-	G	N	R	+T-	P	G	N	R	+T-	P	G	N	R	D	T	P	G			
Ambraw					1	-2						0			0			0			1			1			1		-1				1	1	-1			
Capital	10	5	2		1	2		1				-1		1	-1		6	6		1			1	0	2		2		19	6	3		2	8				
Central Ill.	5			2	3	4				2	4	-6			1	-1	1		1	5			2	3		0		11		2	10	1						
Champaign Co.	13	1		2		14					1	-1	1		1			1	-1	7	1	1	1	6	5		1	4	26	2		3	1	23				
Chicago	15	5		3	13	0		5	2	3	11	-21		1	-1		1	1		11			1	10	2		1	1	0	28	10	2	4	27	-11			
DuKane	7	2				5						0			0		0		4				4		0		11	2						9				
Egyptian	2		1		1	0		1			1	-2			0		0		0				0		0		2	1	1		2	-2						
Ill. Valley	3			1	1	3		1	1	1	1	-4			0		0		1				1		0		4	1	1	1	2	0						
Joliet	5				1	4		1	1	1		1	-2	7	7		1	1					0		0		14	1	1		2	10						
Kewanee	4	2			1	1					1	-1			0		2	1	3		1	1	0		2		-2	6	2		2	3	1					
Lake Co.	4	3		1	1	1			1	1	1	-3	2	2		0			3				3		0		9	3	1	1	2	3						
Madison Co.	8					8		1	1		1	-1	1	1		0						1	-1		0		10	1			2	7						
Peoriarea	1				1	0						0			0		0		1	1	1	1	0		1	1	-2	2	2		1	2	-2					
Rockford	3	1		1		3				1		-1			0		0		1				1		1		5	1		1		4						
Rock River	1	1	1		3	-4		3	1		4	-8			0		0		6			1	5		0		7	4	2		8	-7						
St. Clair Co.	1	1	1	1		0		2		1		-3	1	1		0		1			1		1		0		3	3	1	1		-1						
Out-of-State	8		1		4	-11		6	1	1	1	-9		1	-1		0		2			1	-3		1		-1	18	1	1	6	-25						
TOTALS	82	29	5	+12	-0	31	29	2	20	8	-10	27	-63	12	2	2	8	10	2	-1	11	41	4	4	-1	9	31	10	2	-6	1	1	157	57	13	18	70	17
RECONCILIATION	April 19						-5	12						1				-2				1				1				8								
Adjusted Net							24	-51						9				9				32				2				25								

N = New Members
R = Resigned
D = Deceased

T = Transferred
P = Dropped for Non Pmt. of Dues
G = Gain or Loss

peared possible and the suggestion that further informal conferences between representatives of the societies should be held to consider the development of these possibilities before any formal proposals of collaboration could be formulated.

Members of our Society should be gratified by the fact that it is being recognized as the representative organization of engineers in the State. Two incidents serve to illustrate. One incident was the proposal from the State Department of Conservation that concomitant with their decision no longer to provide any substantial engineering service to organizations interested in constructing dams for recreational lakes the Society, through its respective chapters, serve as the reference bureau to which they might with confidence advise such organization to refer to obtain the names of engineers competent to provide such services. In order to capitalize on this opportunity, the chapters have been urged to compile and to have available for immediate reference a list of such engineers in their respective areas. It is to be hoped that this field of influence will not be allowed to escape us as a result of inaction, indifference, or neglect.

The other illustration of recognition is the fact that in one of two successive bulletins of the Illinois Association of School Boards during the last year there were quoted from our Recommended Schedule of Minimum Fees and Salaries the services for which school boards should retain engineers and in the second bulletin there was quoted the schedule of fees which they should pay for such services.

It would be desirable but it is not practicable to review here the activities of all the committees, but at the risk of overlooking the commendable efforts of others I cannot refrain from special mention of the Committee on Cooperation with Architects and the Committee on

U. S. G. S. Mapping. Both of these committees and especially the Architect's Committee, whose work to date was reported in the January issue of the ILLINOIS ENGINEER, have pointed the way for noteworthy advance of the interests of engineers and our Society. I earnestly hope these opportunities will be cultivated to their fullest extent.

The two major new committees—Legislative Analyzing and Civil Defense—which were originated this year also offer outstanding opportunities for the individual members of our Society, acting as individuals as well as through the Chapters and the Society, to serve their profession and the Society as well as their community and thus enhance the prestige and the professional status of themselves and all engineers. The duties and responsibilities of these committees and of individual members of the Society, all of whom are in fact and in act members of the committees, have been pointed out in earlier issues of the ILLINOIS ENGINEER and in my remarks to the chapters I have visited, so I shall not belabor them here. I well realize that because they are new these committees may operate a little uncertainly or awkwardly for a time, but I am convinced both constitute media or vehicles by which the individual efforts and ideas of our members can be unified and directed in concerted action with tremendous influence. I expect great results from these committees—I trust that my great expectations will not be disappointments!

COST OF LIVING INDEX

The correction factor to be applied to the I. S. P. E. Schedule of Minimum Fees and Salaries was 178.4 for December, 1950. The factor is based upon the U. S. Department of Labor's most recent Consumer Price Index.

This Critical Shortage of Engineers

S. C. HOLLISTER

Dean, College of Engineering, Cornell University, Ithaca, N. Y.

(From *Civil Engineering*, January, 1951)

(From Report to EJC's Engineering Manpower Commission, December 18, 1950, by ASEE Representative)

This article from the January issue of *Civil Engineering* discusses a matter that is of vital concern to every engineer, to all industry and the military and to every citizen. It has been said many times that our existence, our way of life is dependent upon the engineer and engineering. Certainly there is no need of elaborating that statement for the engineer reader. However, there is a need of emphasizing for him the critical shortage of engineers which obtains at the present time. He should take an interest in the situation and be as active as possible in correcting it. Dean Hollister's article gives the facts and should be noted carefully.

Read also, the article, "Answer Sought to Deferment Problem," by M. F. Lunch in the *AMERICAN ENGINEER* for Jan. 1951, p. 12.

EDITOR.

Our country is again obliged to arm in an effort to preserve peace, or to repulse attack if it should come. We are greatly outnumbered and our only chance of survival depends upon our ability to out-design, out-develop, out-produce, and out-perform our opponents. In these efforts engineers are essential. But we are short of engineers. The reason is that there has been a falling off in enrollment in the engineering colleges, largely due to the widely held view that engineers are in over-supply. The shortage of engineers will become still more acute if they are called for military service and used in positions for which their training and experience are not mandatory.

The chart, Fig. 1, presents the essential factors in the outlook for the supply of engineering graduates. The lower curve shows that from 1942 through 1945 the country, through its mistaken manpower policy, all but stopped the operation of engineering education. That is why industry today so critically needs engineers with 5 to 10 years of experience.

The dotted line extended beyond 1950 shows the estimated number of graduates if the schools operate without any withdrawals by Selective Service. It represents the most optimistic production possible, at least until 1954, since all classes graduating up to that year are already enrolled.

Beyond 1950, a dotted line indicates the estimated freshman enrollment. This estimate, made before the Korean War, was based on peacetime expectancies. The chief reason why the 1950 enrollment did not reach the estimate is the widespread rumors that the engineering field was oversupplied.

The demand for engineers already shows tightness in all fields, especially in the aeronautical, chemical, electrical, and mechanical fields. Industry has absorbed the last two graduating classes of nearly 50,000 each and

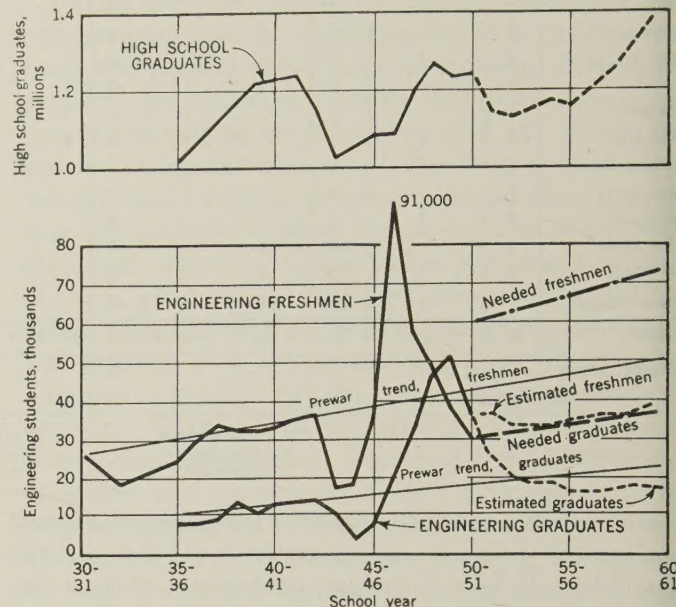


Figure 1

is hotly contending for the 30,000 that will graduate in 1951. Many are in ROTC programs and will go direct to military service; others who have draft postponements will be subject to call. On August 3, the Secretary of Labor placed all branches of engineering on the list of critical occupations, and the shortage is becoming progressively more critical.

In normal peacetime it is generally accepted that at least 20,000 engineering graduates are required annually. But after absorbing 50,000 in each of the last two years, industry still does not have all it needs. And the military needs have not yet been assessed. The minimum annual need appears to be not less than 30,000.

The question now is: How can we obtain 30,000 engineering graduates yearly? Since the mortality in the engineering colleges is about 50 per cent, an annual input of 60,000 freshmen would be required—about double the number that entered the schools this year. How can twice as many high school graduates be attracted to engineering schools? Since a dip of 10 per cent in the numbers graduating from high school is expected between 1950 and 1958, we cannot rely on an increase in the output of the high schools to solve the problem.

Except for the war and immediate postwar years, the numbers entering engineering schools since 1935 range from 2.7 to 3.1 per cent of the total high school graduating classes. On the basis of an average high school output of 1,200,000 boys and girls, 5 per cent would be required to produce 60,000 engineering freshmen, or about 10 per cent of the boys. There is some doubt whether the combined factors of aptitude, ability, interest, and financial means can be found in so high a per-

centage. This brings home the fact that there is not, and cannot be developed, an inexhaustible supply of engineering talent. The supply will always be sharply limited.

Nevertheless it is essential that all avenues of information be utilized to acquaint high school principals, guidance counselors, and the high school students themselves with the shortage of engineers in all categories.

What is significant to industry in this picture, apart from the fact that young engineers will be in very short supply? Inter-company pirating will only add to the difficulties of staffing, and robbing the colleges of faculty members will dry up the supply and reduce the quality of training. It will be essential for industry to re-examine the functions of engineering personnel and make certain that each engineer is being used in the most effective manner possible. Even competent supporting personnel will be tight. It will be necessary to begin in-service training of supporting personnel and to engage women

as far as possible. The training programs of the last war will need to be reestablished. None of these steps can be put off.

Government agencies, including the armed forces, must take cognizance of this situation. Plans must be developed for coordinating the engineering manpower needs of the Services and of industry. To assume that the need for engineers is exclusively military would be national suicide. Sound policies for deferment and the calling of reservists must be promulgated to maintain a balanced utilization.

The technical press reports that the Russians, in their current five-year plan, will have produced 150,000 engineering graduates by the end of 1950. This matches our own output for the same period. During the next five years, however, we will drop by one-third unless drastic action is taken to increase the supply of engineering freshmen and to continue training operations in full force.

News From Chapters

Capital Chapter

President J. P. Murphy opened the December 21, 1950 annual business meeting of Capital Chapter following a 6:00 p. m. dinner at the Bowl in Springfield. Thirty-seven members and two guests attended. The guests were Harold Wieland, student, University of Colorado, and John Reynolds, engineer, Sangamon County Highway Department. Following a reading of Edgar Schrock's letter of resignation (due to illness), it was moved by L. H. Hendrick, seconded, and passed that the chapter continue sending the "Chatter" to Mr. Schrock for the year 1951, as a Christmas present. Announcement was then made of a new listing of "positions available" on hand with the secretary. Treasurer Kessell advised that 54 members (28 per cent) have not paid their 1950 chapter dues but that some returns were still coming in from the follow-up letters.

The following chapter officers were elected for 1951: President, L. D. Hudson; Vice President, Arthur Kessell; Secretary, Leslie Ryburn; Treasurer, David Abbott, and Chapter Representative, L. K. Crawford.

Committee reports were then presented, the principal comments entailing the following points:

Circulation Committee. By Lourde Pfulb, Jr., chairman. The principal activity was mailing the *Chatter* each month and maintaining the Chapter addressograph list. Use of the new Chapter addressograph machine has speeded up handling of the *Chatter* and has cut expenses; a bulk mailing permit is needed to reduce the cost of mailing; and, Ivan Harper is to be commended for his splendid work and gracious assistance with committee.

Civic Affairs Committee. By David Abbott, chairman. Accomplished activation of the sanitary land-fill garbage

disposal practice, now carried on by the City of Springfield; set the background for the preparation of a technical report in 1951 by the chapter to the Exchange Club on "Air Pollution" in Springfield; found that the chapter could sparkplug a revival of interest in a good city plan for Springfield.

Education and Registration Laws. By Joseph Moore, chairman. Checked the local telephone directory to spot violations of listings by persons or firms claiming to give engineering services; recommended that the new committee follow through to see that the Department of Registration and Education is informed of violations, and that the committee's work be conducted through the State committee.

Engineering Salaries Committee. By Harry Graham, chairman. Obtained data on salaries and job specifications for engineers in Federal employment, those employed in comparable states, and those in Illinois, and turned data over to members of the State committee; made suggestions for future committee recommendations regarding salary bracket listings, automatic increases, and registration requirement for engineers of grade III or higher.

Legislative Committee. By G. E. Rynearson, chairman. No 1950 legislative action required the attention of the group during the year; special attention is directed to the need for a competent head of the corresponding committee for the coming year.

Legislative Analysts' Fund Committee. By William Russell, chairman. Reported \$634.00 collected for the legislative analyst's fund, a substantial start in the program. The funds have been turned over to the State Society for deposit.

Membership Committee. By H. Cordes, chairman. Re-

ported total increase of 1 per cent membership with a total of 189 as of December 19, 1950. The membership status is given as follows:

Class	Natl	State	E-I-T	Junior	Student	Total
Present Members	133	15	33	1	6	188
In process	0	0	1	0	0	1
Total.....	133	15	34	1	6	189
Loss or gain,						
compared to 1949.....	-3	-6	+8	-1	+4	+2
Per cent incr. or decr. —	2	29	31	50	200	1

The regular loss of members from shifting positions, etc., approximates 10 per year.

Military Affairs Committee. By L. K. Crawford, chairman. Function of the committee was changed to the Civil Defense Committee; reported that Andrew E. Ryan, coordinator, civil defense, Springfield, has requested chapter to take over organization of "Engineering and Public Works" part of Springfield's defense work; chapter had offered to assist.

J. R. Davis moved and G. A. Rehm seconded a motion that Capital Chapter accept the responsibility of organizing the Engineering and Public Works Division of the City of Springfield Civil Defense Committee; also, that this committee make a definite effort to assure that engineering personnel are used to best advantage in civil defense, military, and production activities. The motion was carried unanimously.

Public Relations and Inter-Society Committee. By A. M. Frost, chairman. Accomplished a joint meeting between our chapter engineers and Springfield architects; a joint meeting was held in Decatur with the Springfield Engineers Club, the Central Illinois Chapter of I. S. P. E., and Capital Chapter; the AIEE subsection members were invited to attend the Capital Chapter's September meeting for the discussion on Radar; 15 inter-chapter visits were made by members of Capital Chapter; a chapter report to N. S. P. E. on local accomplishments brought the Big E award to Capital Chapter on November 17, 1950; and the first of a series of 15-minute radio programs was presented over Springfield's radio station WCVS on December 3, 1950. It was recommended that these activities, being so extensive, be split up among three committees, public relations, intra-society, and inter-society.

Publications Committee. By M. R. Golly, chairman. Twelve issues of the Capital Chapter Chatter were published and distributed to chapter members, a limited number of others from I. S. P. E. chapters, state officers, etc., and to prospects. Distribution of publication averaged approximately 300.

Publicity Committee. No official report was given but it was announced that newspaper releases on local meetings were included in the local papers monthly. Special acknowledgment was given to Walter Jollie for his assistance.

Refresher Course and Advertising Committee. By Lee E. Stickler, chairman.

1—Structural engineering refresher course given, attendance 26.

1—Professional engineering refresher course given, attendance 15.

Recommended continuance of refresher courses whenever at least 15 participants can be found ready.

1—12 time professional card placed in ILLINOIS ENGINEER.

1—4 time 1/8 page adv. placed in ILLINOIS ENGINEER.

1—4 time full page adv. placed in ILLINOIS ENGINEER.

Net refunds coming to chapter should equal \$156.00.

Resolutions and Constitution Committee. By H. F. Lund, chairman. Reported no action by the State committee on the chapter's desired constitutional revisions. Report and suggestions for chapter to energize I. S. P. E. action referred to the chapter's executive committee for action.

Program Committee. By Leslie Ryburn, chairman. Pointed out that the 1950 meetings were completely diversified, including inspection trips, speakers, and committee nights. Recommended that the Ladies' Night meeting and that the Committee Nights be continued.

Under new business it was moved by G. A. Rehm and seconded by J. A. Moore that the chapter executive committee develop a proposed amendment of the Professional Engineering law to enable the forming of a partnership by professional engineers, architects, and structural engineers. The motion was carried.

The meeting was adjourned at 10:15 p. m.

L. D. HUDSON, *Secretary.*

Capital Chapter

At the conclusion of a 6:15 p. m. dinner, President J. P. Murphy opened the meeting held on Jan. 23, 1951 at the Mill in Springfield. Thirty-four members and three guests were present. Chairman Leslie Ryburn, Program Committee, introduced Dave Jones, vice-chairman Springfield Airport Authority, who presented two technicolor films having as a theme, "Skyways to Mexico," a part of the advertising program of the American Airlines. James B. Haskins had charge of the projection.

President Murphy then reported on the Executive Committee's action on the question of handling the suggested Bill for "Model Uniform Boiler and Pressure Vessel Standards" proposed for introduction in the current legislative Illinois session by a national group interested in uniform controls; Murphy advised that the five-man Board of Boiler Rules, set up to administer the controls, called for four of its members to have engineering background and that the committee recommended the chapter request I. S. P. E. to urge that four of the five men on this Board be registered professional engineers. J. W. Marquardt moved and W. M. Russell seconded a motion that the chapter concur with the Executive Committee's sentiments on the question and that the matter be called to the attention of the State and National Societies. The motion was passed unanimously.

A report of the chapter Executive Committee was then given by President Murphy regarding changing the Illinois Professional Engineering Act for permitting legal partnership practice; he advised that I. S. P. E. action was being solicited so that a corrective action for amendment would properly go ahead at the State level.

A. M. Frost, chairman, Public Relations and Inter-Society Committee, announced the February 20, 1951 meeting of the local AIEE group, featuring illustrations of modern gas turbine installation and design, to be held at the auditorium of the Central Illinois Light Company, 8:00 p. m. Frost called further attention to the chapter's second "Big E" award from N. S. P. E., given as the result of the December radio program for public relations.

The chapter's attention was directed by President Murphy to Candidate Lyle H. Roe, running for Commissioner in Springfield, who had claimed in a newspaper announcement that he was a "Consulting Engineer," even though he has not had the proper qualifications. Harry Cordes subsequently pointed out that some of the local supply houses had advertised in such a way as to mislead people to think that they were qualified to do engineering. Victor Verrall advised that the best defense in the case of Roe would be to discourage any vote support, so long as Roe did not claim to be a professional engineer; he further advised that the chapter's work to correct the listings of properly qualified engineers under the heading "Professional Engineers" in the telephone directory should eventually eliminate many of the improper references.

In the absence of Lee Stickler, Harry Cordes reported that preparations were being made for another professional engineering refresher course; also, that 55 men had attended the first session of the short course, sponsored by the chapter through the Portland Cement Association, on Prestressed Concrete, the first session having been held January 22, 1951. Treasurer Arthur Kessell presented his audited report of the chapter finances and indicated that expenses from February 1, 1950 to January 18, 1951 amounted to \$757.29 and that a balance of \$51.65 was on hand. Vice-President G. A. Rehm then reviewed the chapter's progress and singled out the phase of "economic welfare" as one activity we were not advancing rapidly enough to avoid the unionization of engineers.

Outgoing officers then introduced the 1951 officers-elect: Chapter Representative, L. K. Crawford; Treasurer, David Abbott; Secretary, Leslie Ryburn; Vice-President, Arthur Kessell; and President, L. D. Hudson. A call-to-attend the ISPE Convention was made by President-elect Hudson and plans for setting up a Chapter Room at the Urbana Lincoln Hotel were discussed.

A motion for adjournment was moved by J. D. Williams, seconded by Stanley Ream, and passed at 10:00 P.M.

L. D. HUDSON, *Secretary*

LESLIE RYBURN, *Secretary-elect*.

Joliet Chapter

The Joliet Engineers' Club held its regular meeting on December 19, 1950, at Little Jack's Restaurant.

The business meeting was called to order at 8:15 p.m. by President M. C. Seiberling. There being no objections to the Secretary's and Treasurer's report, they were accepted as read. William S. Gray reported that he had a conference with Mayor Janke on Civil Defense and that the Mayor promised that one of our members would be placed on the Executive Committee for this group when and if it is formed. It was suggested that the monthly notice of job announcements and availabilities received by the secretary would be put on file by the Secretary for any of the members who might be interested.

The Chairman of the Nominating Committee, Sanger M. Brown, presented the following nominees of officers for election to serve during the fiscal year ending December 31, 1951: for president, William S. Gray; for vice-president, F. H. Tittsworth; for secretary, William S. Chaney; for treasurer, William K. Waltz.

Max Seiberling moved that the members be elected as presented by the Nominating Committee and this motion was seconded by Mr. Frank E. Clark. The motion was carried unanimously. Mr. W. S. Gray, the incoming president, then made some remarks pertinent to the purpose and outline of action for the Joliet Engineers' Club during the coming year.

The program, "Hunting in Alaska," a talking picture, presented by the Nash Motor Car Company was then shown. Following this we had a skit presented by two amateur players in Joliet entitled, "Christmas in the Ozarks." This was presented by Miss Yvonne White and Mr. James Baher.

WILLIAM S. CHANEY, *Secretary*

DuKane Chapter

The regular January meeting was held at the Red Lion Restaurant on Thursday, January 11, 1951. Dinner was served to 27 members and guests.

Immediately following the meal, Past President R. T. Cash installed the newly elected officers who then assumed their respective duties.

The minutes of the December meeting and the Treasurer's report for the fiscal year of 1950 were read and both were approved.

A motion by Engineer Anderson, seconded by Engineer Walter Deuchler, to extend a vote of appreciation to the outgoing officers for their performance of their duties during the past year was unanimously carried.

The guests present were introduced by their respective hosts and were welcomed to the meeting by President Bateman.

The matter of what types of entertainment were desired and the methods of procurement was discussed, and while many opinions were voiced, no definite plan

was established. This subject will be talked over in the first executive meeting of the new year.

A motion by Engineer Cash, seconded by Engineer Weir, to change the established meeting night from the second to the third Thursday of each month was passed without opposition.

A motion by Engineer Kasser, seconded by Engineer G. H. Deuchler, to hold the 1951 meetings at the Red Lion (excepting possible special occasions requiring special locations) was carried.

A prolonged discussion of ways and means for 1951 was tabled until a later date.

Engineer Emory Fowler related his experiences in taking an examination for registration after having been out of college for 40 years, and his remarks were roundly applauded.

In closing, President Bateman called an executive meeting, which will include the outgoing officers, to be held in the Hotel Baker Lounge in St. Charles. The meeting will be at 7:30 p.m., except for those who desire dinner together, when it will be 6:30 p.m., in the Hotel Coffee Shop.

Meeting adjourned.

GEORGE M. BOOTH, JR., *Secretary*

Egyptian Chapter

The meeting was held Jan. 9, 1951, at Jackson Country Club, east of Murphysboro. A really luscious chicken dinner was served at 6:45 p.m.

The meeting convened about 8:00 p.m., with President T. O. Cromeenes presiding. Members present were Cromeenes, Burnett, Riseling, Keen, Walker, Sherertz, Lee, Kerwath, Brock, Kreimeier, Haroldson, Harris, Gates, Schulz, Simonds, Blankenship, and Persson. Visitors introduced were H. P. McKereghan, Rev. Ray C. Rist, Fred Madorin, L. H. Lungwitz, Ray Buchacker, Carl Worthen, and Wayne Ellis. Applicants for membership present were Mr. Domineck Viterisi and Mr. Charles W. Ritchie.

The President spoke briefly on the State Membership situation. He urged attendance at the annual meeting.

The Chairman of the Ethics and Practices Committee reported no known violations in this area.

The Secretary reported for 1951 as follows:

Membership one year ago.....	58
Membership Now	56
Cash on Hand one year ago.....	\$108.19
Cash on Hand Now.....	\$ 62.97

Applications received and in process—three.

President Cromeenes then asked for the report of the nominating committee which was given by its chairman, Mr. Arthur Lee. The committee recommendations were as follows:

For Chapter President during 1951, Mr. Fred H. Persson.

For Chapter Vice-President during 1951, Mr. Everett L. Sherertz.

There were no nominations from the floor.

Riseling moved and Blankenship seconded that nominations be closed. This motion carried unanimously. Keen then moved and Riseling seconded that the above men be elected unanimously. This motion carried unanimously, and thereby Mr. Persson and Mr. Sherertz became respectively our 1951 President and Vice-President.

Our Chapter Representative, Mr. Charles S. Ward was elected for both 1950 and 1951.

A general discussion followed, in which it was apparent that the Chapter membership desires an active effort to become acquainted with young engineers in our area and to assist them by refresher courses and otherwise.

The Program Committee Chairman, Mr. Kerwath then turned the meeting over to Mr. Fred Madorin, who showed the sound pictures of the 1950 All-Star Football Game.

J. L. BURNETT, *Secretary*

EGYPTIAN CHAPTER

Minutes of Executive Committee Meeting, Jan. 9, 1951

The following members of the executive committee met after the regular chapter meeting:

Mr. Fred H. Persson—President 1951

Mr. Everett L. Sherertz—Vice-President 1951

Mr. T. O. Cromeenes—Past President 1950

Mr. C. E. Keen—Past President 1949

It was moved by Keen, after discussion, seconded by Sherertz, and voted unanimously that Chapter President Persson choose the Secretary for 1951.

It was decided that the question of flowers for deceased members be submitted to the Chapter.

The Refresher Course was discussed.

J. L. BURNETT, *Secretary*

Rock River Chapter

The meeting was called to order by President B. C. Taylor at 8 p.m., Jan. 12, 1951, in the Dixon Elk's Club basement.

The minutes of the meeting of November 10, 1950 were read and approved.

The President stated that as this was the annual meeting of the Chapter, the reports of the officers and committees would be in order. He called for the Secretary-Treasurer's report.

The Secretary's report showed that nine new members had been added to the Chapter rolls during the year, that 13 members had been lost due to resignation, transfer, or for non-payment of dues. The total membership was 154 at the close of 1950, a net loss of four during the year.

The Treasurer's report showed a net balance on December 31, 1950, of \$735.05, a decrease from the previous year's balance of \$97.69. While this seems to be a serious matter, the disbursements for the year included two items which were unusual and which would not be re-

peated in succeeding years. These consisted of a charge of \$25.00 for rental of room space for the Refresher Course conducted by the Chapter in 1950, and \$135.00 which was a refund of part of the dues paid to the Chapter by those members who formed the Rockford Chapter in 1949. If these two items had not occurred, the Chapter funds would have increased by \$62.31.

W. O. Moore moved, seconded by S. E. Johnson, that the Secretary-Treasurer's reports be approved. Carried.

The reports of the following committees were called for:

Ethics, Professional Practices and Registration Laws. R. G. Thomas, Chairman, reported concerning the meeting of the State Committee on Registration Laws, and presented several special problems.

Publicity and Public Relations. W. O. Moore reported the activities of this committee.

Program. W. O. Anthony, a member of the committee, reported for the group.

Constitution and By-Laws. No work found necessary, according to W. E. Gronberg, chairman.

Engineer-in-Training. A. H. Ferger reported for the committee. A refresher course was conducted under the auspices of the Chapter, 27 having been enrolled.

Membership Committee. S. E. Johnson, chairman, reported that nine new members had been signed up during 1950.

Annual Picnic. L. J. Woodyatt reported for the committee. The picnic was sponsored by the Rock River and the Rockford Chapters, at the Oregon Country Club. It was a good picnic, and we have hopes for a similar picnic this year.

Civil Defense. R. H. Anderson, chairman, reported that his committee was awaiting instructions from the State Committee.

Legislative Analyst. H. F. Walder, chairman, reported that a total of \$150.00 had been collected.

Chapter Representative. R. H. Anderson reminded those present of the Society Annual Meeting in Champaign on February 1, 2, and 3, and requested a good attendance.

Mr. L. J. Woodyatt reported concerning a meeting held in Chicago, which he attended with Mr. C. J. McLean and four other representatives of the Illinois Society of Professional Engineers. The meeting was to consider and study the unification of the various engineering societies. From Mr. Woodyatt's report, it appears that such unification is a long way off, as the principal speaker at the meeting seemed quite confused concerning the problem and offered no concrete basis for unification.

The Secretary read two resolutions, which follow, prepared by G. D. Bort, and moved their adoption. Seconded. Carried.

In recognition of the able services of James M. Martin in the Rock River Chapter, Illinois Society of Professional Engineers, the Rock River Chapter, Illinois Society of Professional Engineers at its annual meeting at Dixon, Illinois, on January 12, 1951, wishes to express its sense of personal loss in the death of Mr. Martin,

and its appreciation of his services as a member of the Society.

Mr. Martin was a charter member of the chapter and as an active member of various committees over a period of years, aided in bringing strength and prestige to the Society.

BE IT THEREFORE RESOLVED, That this expression of appreciation be sent to the family of Mr. Martin, and that it be spread upon the minutes of the meeting.

In recognition of the sincere interest of Robert L. Schoenberger in the Rock River Chapter, Illinois Society of Professional Engineers, the Rock River Chapter, Illinois Society of Professional Engineers at its annual meeting at Dixon, Illinois, on January 12, 1951, wishes to express its sense of personal loss in the death of Mr. Schoenberger, and its appreciation of his services as a member of the Society.

Mr. Schoenberger was a charter member of the chapter and was always willing to contribute his enthusiasm and new ideas for the advancement and betterment of the engineering profession.

BE IT THEREFORE RESOLVED, That this expression of appreciation be sent to the family of Mr. Schoenberger, and that it be spread upon the minutes of the meeting.

President Taylor recounted the highlights of his year, among them being four business meetings, the annual dinner, the annual picnic, the Refresher Course, and raising funds for the Legislative Analyst. He then called for the report of the Nomination Committee, which was given by H. F. Walder, chairman, who placed in nomination the following:

For President—R. G. Thomas

For Vice-President—V. E. Hopper

For Chapter Representative—R. H. Anderson

For Secretary-Treasurer—A. H. Ferger

Mr. Walder moved the adoption of the report. Seconded by W. H. Haefliger. Carried.

A. W. Brown moved the nominations be closed and that the President cast an unanimous ballot for the slate as presented. Seconded by R. M. Ferguson. Carried. The President declared the slate elected, and presented the gavel to the President-elect, R. G. Thomas. Mr. Thomas stated his aims for the coming year and read the following committee appointments:

Executive Committee: R. G. Thomas, President; V. E. Hopper, Vice-President; A. H. Ferger, Secretary-Treasurer; R. H. Anderson, Chapter Representative; B. C. Taylor and H. F. Walder, Past Presidents.

Committee on Ethics, Professional Practices and Registration Laws: V. E. Hopper, chairman; J. E. Arrington, David Crawford, R. E. Fields.

Committee on Publicity and Public Relations: J. B. Conroy, chairman; C. E. Holtman, H. A. Smith.

Program Committee: W. O. Anthony, chairman; A. W. Brown, R. E. Erickson, V. E. Hopper, R. M. Brown.

Committee on Constitution and By-Laws: W. O. Moore, chairman; S. R. Etnyre, H. R. Hanley, E. T. Jauch.

Committee on Community Planning: C. K. Willett, chairman; S. W. Knetsch, W. O. Moore.

Committee on Employment Conditions: R. M. Brown, chairman; R. H. Renwick, W. M. Swannstrom.

Nominating Committee: B. C. Taylor, chairman; H. F. Walder, A. W. Brown.

Committee on Engineer-in-Training: S. E. Johnson, chairman; Robert Hofmann, W. E. Jones, A. H. Ferger.

Membership Committee: W. E. Gronberg, chairman; W. O. Anthony, D. E. Hardacre, G. E. Gonigam.

Advertising Committee: S. R. Etnyre, chairman; G. A. Perkins.

Annual Picnic Committee: L. J. Woodyatt, chairman; R. Hofmann, D. F. Lillie, J. E. Arrington, H. L. Wyckoff.

Refreshment Committee: L. G. Meinert, chairman; K. A. Dippel, J. W. Rastede, F. E. Stauffer.

Committee on Civil Defense: Col. R. H. Anderson, chairman; Lt. Col. W. E. Gronberg, Maj. W. O. Moore, Lt. R. E. Erikson.

Legislative and Legislative Analyst Committee: H. F. Walder, chairman; C. E. Schroeder, A. W. Brown, H. C. T. Skinner.

Certain members of the Chapter questioned the method of nominating candidates for the Chapter offices. The Secretary read the sections of the Constitution pertaining to nominations and elections.

R. H. Anderson moved that the Constitution and By-Laws Committee make a study of the Chapter Constitution and By-Laws regarding the provisions concerning the election of officers and the method of presenting nominations and check with the Secretary concerning the custom of notifying members of the Chapter concerning nominations for office. Seconded. Carried.

The next meeting of the Chapter will be on March 30, unless otherwise determined. Notices will be sent to all members.

Adjourned at 9:30 p.m. Refreshments were served.

A. H. FERGER, *Secretary*

Rockford Chapter

The meeting opened at 8:10 p.m., Jan. 19, 1951, in the Persian Room of the Lafayette Hotel. The minutes of the previous meeting were read and approved with one change, viz: the phrase Legislative Program was changed to read Legislative Analyst Program.

The Treasurer's Report was approved as read.

There was no old business to transact. Under new business, President Howard proposed that the Society pay the expenses of some of the officers to the State Meeting. It was moved by E. Middaugh and seconded by Arnold Lundgren that the travel and hotel expenses of the President and Secretary-Treasurer be paid to the State Convention. This motion was unanimously carried.

H. Riedesel asked that the report on an engineers' building be deferred to a later date.

President Howard reported that Bill Day has secured a refund from the Rock River Chapter. This amounted to \$135.00 and is included in the treasurer's report. Ab Armour made a motion that we thank Dixon for the refund. This motion was seconded by Arnold Lundgren and unanimously carried.

The next item of business was election of officers for

the ensuing year. E. Middaugh as chairman of the Nominating Committee, proposed the following slate of officers:

President—Charles Debes

Vice-President—Gil Henning

Secretary-Treasurer—Lyle Porter

Chapter Representative—John Duguid

No other nominations were reported and R. Galvanoni made a motion that the Secretary cast an unanimous ballot for this slate of officers.

Past President Howard turned the meeting over to the new President, Charles Debes, who gave a short talk on the functions of the I.S.P.E. as a coordinating agency for all engineers and its duty to upgrade the engineering profession. President Debes then called the other new officers to the platform and requested a few remarks from them. A condensation of their talks is as follows:

Henning: Our principal duty is to interest other engineers, especially electrical and mechanical engineers, in the I.S.P.E.

Porter: There are 46 paid up members in the local chapter out of a potential of several hundred. We have the best chance to grow of any chapter in the state.

Duguid: The Publicity Committee is necessary to bring us to the attention of all engineers in the area.

The meeting was then thrown open to general discussion. Some of the points covered are as follows:

Arnold Lundgren requested information on who intended to attend the State Convention. The following signified they would be there:

Arnold Lundgren

L. C. Laswell

H. A. Riedesel

Bill Howard

Bill Day

Gil Henning

John Duguid

Charles Debes

Lyle Porter

Arnold Lundgren proposed that a report on the State Board of Direction meeting should be circularized to the entire membership and that a paper similar to the Capital Chatter be issued by the Rockford Chapter.

H. Riedesel suggested that the minutes of the last meeting be circularized to the members. It was proposed that the minutes be sent out with the announcement of the next meeting.

A discussion then ensued concerning the advisability of the Chapter sending a letter to a civil defense authority offering our services. Bill Day, as chairman of the local Civil Defense Authority, suggested that we defer this proposal a month until the affairs of the Civil Defense are better coordinated. After further discussion, R. Galvanoni proposed that the Rockford Chapter write a letter to the Civil Defense Commission and send a copy to the newspapers. This motion was seconded by H. Riedesel and unanimously carried.

R. Galvanoni proposed that the Chapter secure permanent badges for the regular members and this suggestion was approved by the Chapter.

FRED L. FLETCHER, *Secretary*

St. Clair Chapter

Officers and Committees—Year 1951

Executive—Fred W. Moore, President; F. J. Meek, Vice-President; Manuel Garcia, Secretary-Treasurer; R. G. Brichler, Chapter Representative; S. C. Casteel, Past President; L. J. Keenan, Past President.

Ethics, Practice, Registration—R. R. Bartelsmeyer, chairman; Ralph Peppers, H. H. Hall, C. M. Roos, J. E. Weinell.

Publicity Advertising—F. Friedewald, chairman; A. J. Feichert, A. Hartman.

Membership—F. J. Meek, chairman; L. J. Keenan, E. W. Markwardt, R. G. Brichler, S. C. Casteel, P. Pakey, Sam Daniels.

Wage Survey—L. J. Keenan, chairman; C. M. Roos, C. F. Manion, F. J. Meek.

Military Affairs, Civilian Defense—David Johnston, chairman; A. J. Feichert, C. F. Manion.

Directory and Welfare—J. P. DuFour, chairman; R. G. Brichler, A. E. Claes, R. Voellinger, C. F. Manion.

Constitution, By-Laws, Resolutions—F. G. Olbrich, chairman; J. Hurwitz, Philip Bauer, A. Pauly, A. Coleman.

Program—C. F. Manion, chairman; S. C. Casteel, W. J. Nuebling, M. A. Dobbs, G. W. Kennedy, A. J. Feichert.

Auditing—H. Sauerwein, chairman; H. Goodnow.

Entertainment, Fellowship, Reception—A. Y. Wade, chairman; S. Petraitis, T. Reese, M. Krause, R. Hodges.

MANUEL GARCIA, *Secretary*

A LETTER OF INTERESTING SIGNIFICANCE

Mr. P. E. Roberts, Assistant Secretary
Illinois Society of Professional Engineers
631 East Green Street
Champaign, Illinois.

Dear Mr. Roberts:

One of the young engineers of our chapter will be in the Chicago area on an assignment for February, March, and possibly April, during which time he would like to meet with the chapter in or around Chicago, as the case may be.

Please advise the names and addresses of the officers of this chapter as well as the dates, time and place of the chapter meetings.

Best wishes for a very Prosperous and Happy New Year.

Yours very truly,

HERMAN F. BARSUN

Mr. Roberts sent Mr. Barsun the names of the officers of the Chicago Chapter, suggesting that the young man get in touch with them upon his arrival in Chicago.

PRESIDENT TRUMAN COMMENTS ON ENGINEERS' WEEK

THE WHITE HOUSE
WASHINGTON

January 11, 1951.

Dear Mr. Stolte:

Your celebration of Engineers' Week February 19-24 this year should be an occasion for the engineering profession to rededicate itself to the peace and well-being of our common country.

At this time, with our Nation's very liberty at stake, and the peace of the world hanging in the balance, it is more urgent than ever that the engineering profession devote all of its strength and influence to the welfare of the Nation and the world.

Please convey to the members of your Society my greetings and best wishes for success in their celebration of Engineers' Week.

Very sincerely yours,

Signed,

HARRY S. TRUMAN

Mr. S. L. Stolte,
President,
National Society of Professional Engineers,
1121 Fifteenth Street, N. W.,
Washington 5, D. C.

GEORGE WASHINGTON ACCOMPLISHED MANY ENGINEERING TASKS

According to research by John B. Walsh, P.E., some of the engineering works attributed to Washington were unusually novel and advanced for their time.

First, as a competent surveyor, at a time when surveying was the most important branch of civil engineering practiced in America, he surveyed thousands of acres of land for Lord Fairfax and later held the office of County Surveyor for Fairfax and Culpepper Counties.

Then as a military engineer he built roads and fortifications showing a special skill and aptitude in the use of field fortifications and in the ingenuity with which he found expedients for overcoming practical difficulties.

He organized a company for the purpose of reclaiming the Great Dismal Swamp, not only for agriculture but also for its timber. This was an immense swampy section in southeastern Virginia covering about 750 square miles.

Washington early recognized the importance of better communications in the Colonies. He advocated a policy of internal improvement and as early as 1754 proposed connecting the waters of the Potomac with those of the Ohio by means of a highway across the mountains.

This led to the formation of the Potomac Company to improve the navigation of the Potomac and build a highway connecting with the Ohio. The route finally selected for the highway over the mountains was practically the same as the one Washington had suggested earlier as being the most practicable. The Potomac River

improvement involved the construction of five canals and removal of obstructions from the river. We see that Washington as president of the company, with the four directors, because they were unable to obtain the services of an engineer of sufficient skill, had to make all decisions as to what methods were to be employed, after carefully investigating the conditions, and superintended the work, thus acting as chief engineer and superintendent.

The James River Company was an outgrowth of Washington's advocating the improvement of the James River. This involved the construction of a canal seven miles long around the falls and rapids at Richmond, which was the first canal of importance in America.

Washington was rightfully called the "Father of Ca-

nals in America." Whitford, author of "The History of the Canal System of New York," says:

"The immortal Washington was the original father and promoter of these canals and improvements, and well did he deserve that admirable motto, 'Twice the saviour of his country.' After conducting her to liberty, he opened her the way to prosperity by new roads and canals, and varying the produce of agriculture."

Washington's last and crowning piece of engineering was that of selecting the site for and planning the City of Washington. In this he acted as chief engineer, making decisions, giving orders for the work, supervising all details including plans for public buildings and their location.

—*New York Professional Engineer*

Registration by Endorsement

From Report of Committee on Registration and Endorsement, N. C. S. B. E. E.

The one outstanding weakness in registration procedure for professional engineers lies in the unnecessary barriers and hurdles that have been erected against interstate practice. In the early days of registration legislation, the opponents of the movement predicted this difficulty; they feared that registration would become a nuisance and would be abused as a barrier to restrict interstate practice. In defending the proposed legislation, we assured all doubters that the administration of registration would be in the hands of professional engineers of high ideals and that it would be kept sensible, clean, and fair. We promised that everything possible would be done to facilitate the free flow of engineering talent and services from state to state. We must keep faith with the profession and fulfill this promise.

The primary purpose of professional registration is to eliminate the practice of the unqualified. That is the sole justification. Any requirements or obstacles beyond the assurance of professional qualification are a perversion and abuse of registration.

In considering the broad question of interstate registration, three governing principles should be laid down:

1. The sole purpose of registration is to assure professional qualification. If an engineer of established standing and known qualifications applies for Registration by Endorsement, the State Board should have full flexibility and discretion to grant Registration by Endorsement without written examinations or other embarrassing requirements.

1. The sole precaution to be taken in granting Registration by Endorsement is to make sure that it is not being used as a back-door route to evade qualification requirements by the expedient of first securing registration in another state of lower qualification requirements.

3. An engineer should not be expected or required, as an evidence of good faith, to secure registration in all the forty-eight states, in remote anticipation of possible

future engagements or of possible future jacking-up of requirements. If he is properly qualified, he should feel reasonably assured of the availability of Registration by Endorsement in other states when and as he may need such registration.

With these three basic guiding principles in mind, a review of the current requirements of the various State Boards reveals the following features that call for correction:

1. **Insistence on Reciprocity Agreements**—Insistence on reciprocity agreements is fundamentally wrong in principle. The individual applicant should be judged on his individual qualifications. He should not be penalized for the inability of his home State Board to enter into a reciprocal agreement. We have to recognize that different states have reached different levels or standards of qualification requirements, and the state having higher requirements should not be asked to lower them in order to enter into a reciprocity agreement. Petty jealousies, coercion, and retaliation have no place in registration procedure. Each State Board should strive to do what is right and fair by the applicant without seeking to coerce another State Board into a blanket agreement.

2. **Insistence Upon Written Examinations**—Written examinations are designed for younger men, fresh out of engineering school or a few years after graduation. So used, they have their place as an impartial check of the applicant's educational preparation and of the applicant's ability to apply that knowledge to practical engineering problems. Once the young man has passed a proper professional written examination in one state, he should not be required to pass written re-examinations in other states. That would make interstate registration an intolerable hardship. For older engineers of established professional standing, twenty or thirty years after graduation, written examinations are out of place. For

these older engineers of eminence, their record of work successfully accomplished is a more valuable index of competence than any classroom type of written examination. We may require the younger candidate to show a retained or refreshed knowledge of all the subjects taught in the classroom, but we can forgive the older engineer who has grown rusty in some of the unrelated academic studies through disuse but who has more than made up for it by growth in expert knowledge in his own field of practice and specialization. For such older engineer, a written examination is both a time-consuming nuisance and an embarrassment. Prominent, highly qualified engineers have given up professional engagements in other states rather than subject themselves to the nuisance and embarrassment of a written academic examination at their age. Insistence upon written examinations under such conditions is interpreted as a selfish closed-shop idea for the benefit of local engineers. Such provincialism has no place in the engineering profession.

3. Insistence Upon Oral Interviews—A number of states require endorsement applicants to make a special trip to that state for an oral interview or examination. Some of these states specify that this oral examination must be at a regular formal meeting of the State Board. In the case of State Boards having infrequent meetings, this may mean as much as a half-year's delay in securing Registration by Endorsement. In any case it means an expensive and time-consuming demand upon the applicant. All of this appears unreasonable and unnecessary. For applicants of questionable qualifications, an oral interview may be indicated as the most effective way of resolving any doubts. For the young engineer who has moved into the state, a Board interview is not a serious hardship. But for the busy practicing engineer of established standing and known qualifications, the requirement to travel to a distant state on a specified date for an oral examination is an unnecessary hardship. In probably nine cases out of ten, this requirement can and should be waived. The law should provide for oral examinations in doubtful cases at the discretion of the State Board, but should not make oral examinations an inflexible mandate for all applicants.

4. Misinterpretation of "Grandfather" Registration—Injustices have been caused by assuming that "Grandfather Registration" or "Registration under a Grandfather Clause" necessarily consisted of mandatory registration of prior practitioners without examination of qualifications. If any State Board interpreted a "Grandfather Clause" as a mandate to issue blanket registration during the initial period without regard to competence or qualifications, that State Board betrayed a professional trust. The applicant's claim that he was practicing "engineering" before the registration law was enacted was in all cases subject to review by the State Board before granting registration. Without engineering knowledge and training, the applicant's practice was not "engineering"; and working in a subordinate or sub-professional capacity did not constitute professional

"practice." As far as is known, the State Boards operating under a "Grandfather Clause" did not lower their standards to the point of accepting the unqualified and the incompetent. Moreover many of the states never had a "Grandfather Clause" in their registration laws. It is true that the older state registration laws operated for some years before written examinations were inaugurated. But that does not mean that the earlier registrants under such laws were less qualified. In fact, in such states as New York, registration in the initial years was limited to the most eminent and the most highly qualified. The standards for reviewing and evaluating educational qualifications and professional experience were even higher than in later years. In the later years the educational and experience qualification requirements could be somewhat relaxed since they were supplemented by the written examinations as a final check. Accordingly it is a mistake and an injustice to rate the earlier registrants in such states as "Grandfather" registrants merely because they qualified before written examinations were established. It is equally a mistake and an injustice to discriminate against later registrants in the same states who have been exempted from written examinations for the same reasons of superior qualifications and long established standing. To insist that such older engineers of established superior qualifications take written examinations in other states before securing Registration by Endorsement is contrary to the spirit of professional registration.

In this connection, one important, guiding thought is worth stressing. As long as there are exemptions in our registration laws, and as long as there are large groups of qualified men who are under the impression that registration does not apply to them, we must leave the door open for these men to qualify when they become sold on registration. Insistence upon written examinations for these older men would be a serious psychological hazard and would indefinitely retard the universal acceptance and recognition of registration. Registration should not be made a punitive measure. We still have a selling job to do. An arbitrary, inconsiderate and inflexible attitude alienates and antagonizes. We want to make friends. We want to win increasing support and cooperation for the registration movement.

5. Misinterpretation of "Equal Treatment"—Some State Boards defend their onerous requirements for endorsement registration by declaring that they cannot grant special privileges to non-residents; if resident applicants are now required to take the written examinations of that Board, they argue, then all non-resident applicants must be required to take the same written examinations; and if resident applicants are required to appear before the Board for an oral examination, they similarly argue, then non-resident applicants must likewise be required to appear before the Board for an oral examination. This type of reasoning overlooks an important distinction. The non-resident applicant for registration by endorsement is not a neophyte seeking his

first registration. He has already shown his good faith and he has already established his professional qualifications in his home state and usually in other states. He should not be penalized for not having secured the desired registration by endorsement in the specific state at an earlier date, years before he needed it. Registration would be a burdensome absurdity if every registrant were expected to secure registration in all of the forty-eight states in remote anticipation of future needs and of future jacking-up of requirements. To be strictly fair, an application for endorsement registration should be considered by a State Board under the requirements of that Board as of the date of the applicant's original registration in his home state, for that was the date at which the applicant established his good faith in securing admission into the engineering profession. Any subsequent or recent jacking-up of requirements applies properly to new registrants, but should not be applied retroactively to those already registered in other states any more than it should be applied retroactively to those already registered in the state under consideration. Moreover, the applicant for registration by endorsement is usually an older engineer of established practice and standing, and in such cases a written examination is hardly a necessary or valid test of professional qualifications and accomplishments. Likewise, appearance before the State Board is not a serious hardship for the young local applicant, and a few months' delay in securing registration is not a serious hardship; but for the busy older engineer engaged in interstate practice the requirement of a stated oral interview in another state is usually an unnecessary hardship, expensive and time-consuming, and often interfering with important professional engagements. If the applicant has to wait weeks or months for the stated interview, the commencement of important engineering work may be seriously delayed or the applicant may have to surrender his engagement. Lip-service to "equal requirements" results in tragic inequality of hardships. The excuse of "equal treatment" of new local applicants and out-of-state engineers already registered in other states ignores the essential differences between the two categories and violates fundamental requirements of fairness and consideration.

6. Unreasonable Specifications of Initial Dates of Engineering Practice—A number of State Boards require the applicant for endorsement to show original registration or established practice prior to various fixed specified dates. Some of these specifications are absurd and unfair. Two of the states require an endorsement applicant to show twelve years of practice prior to the enactment of a registration law in his home state! This is clearly discriminatory against those states that were pioneers in enacting registration laws. An engineer from Wyoming, Louisiana, or Florida, would have to show established practice prior to 1895, 1896, or 1905, respectively, whereas an engineer from North Dakota, New Hampshire or Montana would merely have to show practice since 1931, 1933, or 1935. In the one case the appli-

cant would be barred unless he showed 54, 53, or 44 years of professional practice, whereas in the other case he would need to show only 18, 16, or 14 years of experience to qualify for registration by endorsement. A Wyoming registered engineer with anything less than 54 years of professional practice would be compelled to take a written examination in one state, even if he is an engineering graduate, and would be completely barred in another state, no matter how highly qualified he might be, if he did not happen to be a graduate from an accredited school. The discrimination, unfairness, and absurdity of such specifications need no further comment.

7. Exorbitant Registration Fees—One state, or rather territory, of the United States denies registration to non-residents of that territory but will grant a temporary practice permit for a specific project for one year for a non-resident Permit Fee of \$250.00! A fee of \$250.00 per year or fraction thereof is a high tax on the right of professional practice. Obviously, the exaction or payment of such fee has little to do with the determination of professional qualifications.

We have to deprecate the emphasis on "good standing" in some states, where the phrase is used with the meaning of keeping up the payment of annual renewal fees. Dire consequences are sometimes threatened for any interruption of payment, including threatened lapse of license with future requirement of a written examination for reinstatement. How the payment or non-payment of renewal fees changes an engineer's competence, it is difficult to see. A registered engineer should not be required to secure a license in another state until he needs it, and after his engagement in that state is finished he should not be subjected to a lifelong tax under threat of future reprisals. The lapsing of a registration in any state in which the engineer no longer needs it should be no reflection on his qualifications. For an engineer paying fees in several states because of past temporary engagements or past expectations of engagements, the continuing cumulative tax (with heavy penalties for oversight or omission) becomes quite a burden. Registration was not established for the benefit of State Boards; on the contrary, we conceive the State Boards as unselfishly serving the profession and the public. All of the emphasis should be on the qualifications of the registrants. All other considerations must be subordinated or eliminated.

We assured the critics of registration and we promised the profession that registration would never be used as a source of revenue—that it would never be perverted into a racket for the benefit of any group or agency, public or private. We must scrupulously seek to make good on that promise. Professional services should not be subjected to a high interstate tariff for revenue or for exclusion.

Recommendations

All of the objectives and guiding principles of Registration by Endorsement can be accomplished by adopting two simple rules:

1. Waive written and oral examinations if the applicant has passed a reasonably equivalent written examination in another state.

2. Waive written and oral examinations in the case of registered engineers of long established and recognized standing in the profession.

It is assumed that the applicant meets the statutory requirements in all other respects. If the applicant's standing and qualifications are known, the State Board should have full flexibility and discretion to grant Registration by Endorsement promptly upon receipt of the application.

Conclusion

The National Council of State Boards of Engineering Examiners has been criticized for the non-uniformity of registration requirements and, in particular, for the unsatisfactory status of interstate registration by endorsement. It is not the fault of the National Council. The National Council has no authority to command and no power to coerce member Boards. All we can hope to do is to exert influence in the right direction by education, by precept, and by persuasion.

The Committee on Registration by Endorsement has devoted years of effort to this problem. It is a problem of education and persuasion. Professional registration is an ideal. To make progress toward the ideal, we must see the weaknesses and the defects that require correction. As Member Boards of a National Council, we must learn to visualize the problem from a national viewpoint. We are one profession, and we do not want to break it up into forty-eight mutually jealous and exclusive cliques.

BAR EXAMINATIONS

(The following information is taken from a preliminary report prepared for the Survey of the Legal Profession, published in the May 1950 issue of "The Bar Examiner," publication of The National Conference of Bar Examiners.)

From 1930 through 1949, representing a span of 20 years, 280,000 applicants have taken bar examinations, an average of 14,000 applicants examined per year. Of these approximately 50% or 7,000 per year, on the average are successful. This figure of 280,000 includes all states and the District of Columbia and covers the depression years, the lean war years and the post-war boom period. It necessarily excludes those applicants admitted without examination in states having the diploma privileges of special exemptions for veterans.

The administrative responsibility for bar examinations either directly or ultimately devolves upon the examining boards themselves. The average size examining board is between five and six members, five being the most common number. In six states the members of the bar examining boards receive no compensation for their services. Eight states allow expenses only. Thirteen states pay a per diem ranging from \$8 to \$50, either with or without expenses. Assistants for the preparing and

grading of bar examination questions are provided for in eight states. Principal sources of funds to cover the expenses of bar examinations are the fees paid by applicants. In three states, the necessary funds are provided solely by legislative appropriation, and in some states the income from examination fees is supplemented by legislative appropriation or from other funds.

Apart from the eight states in which assistants are provided to aid in preparing and grading of questions, the burden of such preparation and grading is borne entirely by the examiners themselves.

In evaluating answers the examiners are called upon to appraise the applicant's answer in terms of a predetermined passing grade or percentage. The required minimum grade is normally an over-all average of either 70% or 75%. Sometimes there is the further requirement that not less than a specific grade must be obtained on any answer or on any group of subjects.

Some of the conclusions and recommendations suggested are as follows: The number of applicants examined per year, the expense involved, and the burden imposed, warrant serious consideration of the possibility of a national bar examination. Adequate administrative and technical assistance should be provided for each bar examining board. After each bar examination the questions should be subjected to an appraisal and critical analysis, preferably by an independent advisory group. As a safeguard against possible errors and discrepancies in grading, the papers of applicants whose grades are in the border-line zone below passing should be reviewed before the results are finally determined. Systematic studies and statistical tabulations should be made for each bar examination, with a view toward constant improvement of the validity and effectiveness of the examination.

Figures regarding bar examinations given in all the states for the year 1949 are as follows: Total number taking examination 19,296; total number passing 11,773; per cent passing 61. 1,571 additional law school graduates were admitted to the bar by virtue of their diplomas, making a total of 13,344 new lawyers licensed last year, an all-time high.

—Registration Bulletin

COMMITTEE REPORTS AT ANNUAL MEETING AVAILABLE

There are a limited number of bound copies of 1950 Committee reports which were presented at the 66th Annual Meeting. Any member desiring one of these booklets, please address the Secretary's Office, 631 E. Green St., Champaign, Ill.

Human nature is the most fascinating, the most promising, the most powerful, but the most unpredictable element or force in the world. The extent to which you understand it will be the measure of your success.

Lieut. Gen. Somervell

PROFESSIONAL DIRECTORY

DE LEUW, CATHER & COMPANY

CONSULTING ENGINEERS

Transportation, Public Transit and Traffic Problems

Industrial Plants

Grade Separations

Railroads

Expressways

Subways

Tunnels

Power Plants

Municipal Works

150 North Wacker Drive
Chicago 6, Illinois79 McAllister Street
San Francisco 2, Calif.

GREELEY AND HANSEN

ENGINEERS

Water Supply, Water Purification, Sewerage, Sewage
Treatment, Flood Control, Drainage, Refuse Disposal220 SOUTH STATE STREET
CHICAGO 4, ILL.

ALVORD, BURDICK & HOWSON

CHAS. B. BURDICK

LOUIS R. HOWSON

DONALD H. MAXWELL

Water Works

Water Purification

Flood Relief

Sewerage

Sewage Disposal

Drainage

Appraisals

Power Generation

CIVIC OPERA BLDG.

CHICAGO 6, ILL.

JOHN DOLIO

CONSULTING ENGINEERS

Industrial Plants and Piping

Street Lighting—Electrical Surveys

Air Conditioning—Ventilation

Sewerage—Water Works—Power Plants

208 S. LaSalle Street
Chicago, Illinois

JENKINS, MERCHANT & NANKIVIL

Consulting Engineers

Municipal Improvements

Power Development

Traffic Surveys

Flood Control

Air Ports

Sewerage

Water Systems

Industrial Plants

Recreational Facilities

Investigations and Reports

805 East Miller Street

Springfield, Illinois

CRAWFORD, MURPHY & TILLY

CONSULTING ENGINEERS

Water Works, Sewerage, Airports, Street
Improvements, Traffic Surveys

PHONE: 2-7500

400½ E. ADAMS STREET SPRINGFIELD, ILL.

MEL. J. STEVENSON

CONSULTING MECHANICAL ENGINEER

Service to Architects, Civil and Structural Firms

Heating & Ventilating

Air Conditioning

Refrigeration

Plumbing and

Electrical layouts

Fume & Dust Removal

Dust Reclamation Systems

Steam Generation and

Steam Distribution

Design layouts

2970 Sheridan Road (Bi 8-4600) Chicago 14, Illinois

Use of this space is limited to members and associates of the Society. This is a dignified and excellent way to let engineers know that your firm can always accept another account. The price is very reasonable. A card or letter to the Secretary, 631 East Green Street, Champaign, Illinois, will bring full details.

EXCERPT FROM AN ADDRESS BY ROBERT S. LYNCH

President, Atlantic Steel Company, Atlanta, Ga.

Given at the Commencement Exercises, Southern Technical
Institute, Chamblee, Ga., in September, 1950

Let me leave you with this thought that experience, knowledge and ability is never subject to economic inflation or deflation, and it is something that you can spend fully and still have its full value, and with it you should strive for those accomplishments by which you are respected for your authority, admired for your personality and loved for your character. The greatest of men acquire nothing more. Graduating seniors should seek nothing less.

"The most curious thing that I have noted about communism is that nowhere, in any corner of the earth, does anyone get any fun from it. Whatever it is, communism is not for anybody's good time."

RUSSELL McLAUCHLIN

ILLINOIS ENGINEERS GO TO BANGKOK

Plans for rehabilitation of the Royal State Railways of Thailand will be checked for suitability and adequacy by American engineers prior to the starting of the improvements, it was learned today. T. C. Fredrick, Member N. S. P. E., Chief Engineer, and H. P. Watson, Chief Mechanical Engineer for DeLeuw, Cather & Company, consulting engineers, left Chicago for Bangkok on November 20 to direct the study.

SEEK SPEED MINIMUM

As a result of studies of traffic flow on hills, the state of Arizona is reported considering a highway design policy under which no vehicles would have travel slower than 25 miles per hour on the open highway. It is proposed that where grades are sufficient to slow vehicles under this point, extra lanes and turn-out bays will be provided.

If it took any effort to go from today to tomorrow, some people would still lie in yesterday.—Babson.